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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,474	06/23/2005	Manabu Matsui	0445-0354PUS1	2979
2292 7590 05/07/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER STEELE, JENNIFER A	
			ART UNIT 1771	PAPER NUMBER
			NOTIFICATION DATE 05/07/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary	Application No.	Applicant(s)	
	10/540,474	MATSUI ET AL.	
	Examiner	Art Unit	
	Jennifer Steele	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 1-2, 4-7 and 9 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa et al. (US 4,469,540).

Furukawa et al. teaches a process for producing a highly bulky nonwoven fabric.

Furukawa teaches a process for melt spinning a crystalline propylene polymer as a first component and an ethylene polymer as a second component in a side-by-side or sheath-core type composite fiber. Furukawa teaches a composite fiber wherein the second component can occupy at least a portion of the fibers surface continuously in the lengthwise direction of the fibers. Furukawa teaches the melting points of the first component are 20°C higher than the second component. Furukawa does not teach an orientation index for the first and second polymer component. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which

anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP §§ 2112- 2112.02

2. Claim 2 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa et al. (US 4,469,540). Furukawa teaches a conjugate fiber having a heat shrinkage of less than 5%. (Table 2, col. 10). Furukawa teaches the heat treatment is above the melt temperature of the low melt component but below the temperature of the higher melt point component. Furukawa does not teach that the heat shrinkage is measured at specifically a temperature of 10 higher than the second component. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP §§ 2112- 2112.02

3. Claim 4 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa et al. (US 4,469,540). Furukawa teaches a melt spinning process with a crimping and heat treatment. Furukawa teaches a process of drawing through nip rollers but does not teach a draw ratio. The process of the current application is to process through rollers at low draw ration under 2. The current application specification describes a process with no draw or low draw ratios and defines low draw ratios as draw ratios under 2 on page 9, lines 4-24.

4. Claim 4 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa et al. (US 4,469,540). Furukawa anticipates a conjugate fiber with a sheath-core configuration in which the first resin component makes the core and the second resin component makes the sheath.

5. Claim 5 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa et al. (US 4,469,540). Furukawa anticipates a conjugate fiber wherein the first resin component comprises polypropylene and the second resin component comprises high-density polyethylene.

6. Claim 6 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa et al. (US 4,469,540). Furukawa anticipates a conjugate fiber wherein the fibers in the web are heat fused by a heat treatment to produce a highly bulky nonwoven fabric (col. 2, lines 23-34).

7. Claim 7 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa et al. (US 4,469,540). Furukawa teaches a conjugate fiber with a specific volume of $106 \text{ cm}^3/\text{gm}$ which anticipates the current application limitation of greater than $95 \text{ cm}^3/\text{gm}$. Furukawa does not teach the limitations of strength per basis weight nor bulk softness per unit thickness. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP §§ 2112- 2112.02

Art Unit: 1771

8. Claim 8 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Furukawa et al. (US 4,469,540). Furukawa teaches the fibers are passed through a 40" card web and the web is converted to a nonwoven fabric by means of a dryer of hot air circulation type (col. 6, lines 60-68).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claim 1-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Furukawa et al. (US 4,469,540) in view of Ishizawa et al. (US 5,780,155). Furukawa et al. teaches a process for producing a highly bulky nonwoven fabric. Furukawa differs from the current application and does not teach a process with a low or no draw.

Ishizawa et al. teaches a melt-adhesive composite fiber and non-woven fabrics from the composite fibers wherein the fibers are fused at the intersections of the fibers. Ishizawa

Art Unit: 1771

teaches fibers having polypropylene as the core component and polyethylene as the sheath component. Ishizawa teaches the polypropylene is a crystalline polypropylene that has a melting point higher than the polyethylene by 20°C or more. Ishizawa teaches the bicomponent fibers are of a sheath core or side-by-side type with the second component, polyethylene being continuously present on at least a part of the fiber surface in the lengthwise direction of the fiber. Ishizawa teaches a low stretching ratio of 0.6 to 0.85 which meets current applications limitation of low draw ratio (col 2, lines 1-5). Ishizawa teaches a bulky fabric with strength of 2500 g/5 cm based on the Ishizawa strength test. Ishizawa teaches a fabric with a soft hand feeling but teaches a qualitative measure and not a test measurement as the current application. Ishizawa teaches low fabric shrinkage under 10%.

It would have been obvious to modify the product and process of Furukawa and test for the properties of Ishizawa motivated to produce a high bulk heat fusible fiber and nonwoven fabric.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Steele whose telephone number is (571) 272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on (571) 272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1771

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


ELIZABETH M. COLE
PRIMARY EXAMINER

4/19/2007